REMARKS

Claims 1 and 4-6 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Manabe (JP 10-278501). Applicant traverses this rejection because Manabe fails to disclose or suggest that the spring constant of the rim body portion is maintained so that the natural frequency of the wheel is greater than the natural frequency of the pneumatic tire.

Manabe is directed to a disk wheel. The reference teaches that a wheel is divided axially into a plurality of sections 26-40, and that the different sections of the wheel have different rim thicknesses. However, the reference is silent regarding the effect of the rim thickness on a spring constant of the disk wheel. Further, Manabe fails to disclose that the natural frequency of the disk wheel is greater than that of a pneumatic tire.

As disclosed in the present specification, reducing rim thickness in a conventional manner can produce a wheel having a reduced natural frequency that is close to the natural frequency of the pneumatic tire mounted on the rim (See Applicant's Specification, paragraph [0003]). When the natural frequencies of the tire and wheel are close to one another, there is an increase in resonant action between the frequencies, causing an increase in road noise.

In contrast, a wheel according to the invention recited in claims 1 and 4-6 has a rim that is divided into three equal sections. Wheel weight is reduced by adjusting the rim thickness in each section, and rim thicknesses in each section are chosen so that the spring constant of the wheel is maintained. This is accomplished by selecting rim thicknesses such that the average rim thickness in a disk side section is reduced the least,the average rim

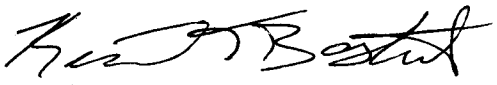
thickness of the flange side section is reduced the most, and the average thickness of the middle section is between that of the disk side section and that of the flange side section. Setting rim thicknesses for the various section in this way advantageously maintains a spring constant, which ensures that the natural frequency of the wheel is distinct from the natural frequency of the tire. This difference in natural frequencies helps to prevent resonant action, thus reducing road noise produced by the tire. Since Manabe fails to disclose or suggest that the spring constant of the wheel is maintained, or that the natural frequency of the wheel is greater than the natural frequency of the pneumatic tire, withdrawal of the rejection is respectfully requested.

For the foregoing reasons, applicant believes that this case is in condition for allowance, which is respectfully requested. The examiner should call applicant's attorney if an interview would expedite prosecution.

The Commissioner is hereby authorized to charge fees which may be required to this application under 37 C.F.R. §§1.16-1.17, or credit any overpayment, to Deposit Account No. 07-2069.

Respectfully submitted,

GREER, BURNS & CRAIN, LTD.

By 

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